

PRESSURE REDUCING VALVE

NORMALLY CLOSED WITH HYDRAULIC CONTROL

Model IR-220-54-3W-X

The BERMAD Normally Closed, Pressure Reducing Valve with Hydraulic Control, is a hydraulically operated, diaphragm actuated control valve that reduces higher upstream pressure to lower constant downstream pressure regardless of fluctuating demand, and opens fully upon line pressure drop. It is a Normally Closed valve, which opens in response to a remote pressure command and shuts in the absence of that command.



[1] BERMAD Model IR-220-54-X opens upon pressure rise command, and establishes reduced pressure zone protecting laterals and distribution line.

[2] BERMAD Combination Air Valve Model IR-C10

[3] BERMAD Automatic AIR Valve model IR-A10

Features & Benefits

- Line Pressure Driven, Hydraulically Controlled
 - Hydraulic Pressure Control, Normally Closed
 - Closes upon control failure
- Protects downstream systems
 - Amplifies and relays weak remote command
 - Opens fully upon line pressure drop
- Plastic Globe Hydro-Efficient Valve
 - Unobstructed flow path
 - Single moving part
 - High flow capacity
 - Highly durable, chemical and cavitation resistant
- Unitized Flexible Diaphragm and Guided Plug
 - Excellent low flow regulation performance
 - Prevents diaphragm erosion and distortion
- Fully Supported & Balanced Diaphragm
 - Requires low actuation pressure
- User-Friendly Design
 - Simple in-line inspection and service

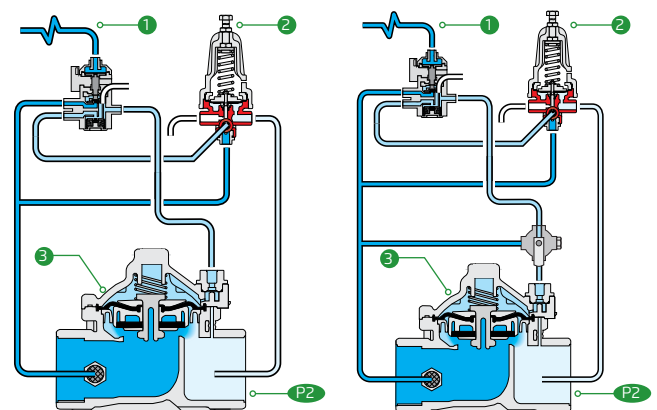
Typical Applications

- Computerized Irrigation Systems
- Drip Systems
- Pressure Reducing Stations
- Systems Subject to Varying Supply Pressure
- Energy Saving Irrigation Systems

Operation:

The 3-Way Hydraulic Relay Valve (3W-HRV) **1** hydraulically connects the Pressure Reducing Pilot (PRP) **2** to the Valve Control Chamber **3**. The PRP commands the Valve to throttle closed should Downstream Pressure **P2** rise above pilot setting and to open fully when it drops below pilot setting. The 3W-HRV switches upon pressure drop command, directing line pressure into the control chamber, and thereby causing the main Valve to shut. The 3W-HRV also features local manual closing.

All images in this catalog are for illustration only





IR-220-54-3W-X

Technical Data

Pressure Rating:
10 bar; 145 psi

Operating Pressure Range:
0.5-10 bar; 7-145 psi

Setting Range:
1-7 bar; 15-100 psi

Setting ranges vary according to specific pilot spring. Please consult factory

Materials:

Body, Cover and Plug:
Polyamid 6 & 30% GF

Diaphragm: NBR

Seals: NBR

Spring: Stainless Steel

Cover Bolts: Stainless Steel

Control Accessories:

Tubing and Fittings:
Plastic

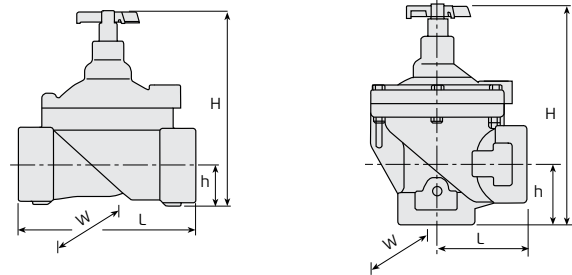
Pilot Spring Range:

Spring	Spring color	Setting Range
J	Green	0.2-1.7 bar
K	Gray	0.5-3.0 bar
N	Colorless	0.8-6.5 bar

Technical Specifications

Dimensions & Weights

For more details of [BERMAD 200 series](#) Please see our full engineering page.



Sizes Inch ; DN	1½" ; 40		2" ; 50	
Pattern	Globe	Angle	Globe	Angle
L (mm)	160	80	170	85
H (mm)	180	190	190	210
W (mm)	125	125	125	125
h (mm)	35	40	38	60
Weight (kg)	1	0.95	1.1	0.91

Flow Properties

Sizes	Inch DN	1½" 40	1½" 40	2" 50	2" 50
Pattern		G	A	G	A
KV		37	41	47	52

Valve Flow Coefficient

$$\Delta P = \left(\frac{Q}{Kv} \right)^2$$

$Kv = m^3/h @ \Delta P \text{ of } 1 \text{ bar}$
 $Q = m^3/h$
 $\Delta P = \text{bar}$

Flow Chart

